

# SDX2™ laminated smart glass Product Specifications

**SKYLINE**

## Function

Allows a laminated panel to switch from completely opaque to transparent instantly with the application of an electrical current to an embedded layer of liquid crystal particles using proprietary controllers.

## Switching Action

An array of switching options (including dimming) are available from a basic single-pole/single throw switch to advanced integration into home automation systems.

## Glass Size & Thickness

Max. size: 70" x 144"

Max. Thickness: 3/4"

Min. Thickness: 5/16"

Average Thickness: 1/2"

## Energy Data

Input Power: 110–220 VAC / 50-60Hz

### Energy Consumption:

ON: ~3 watts/ sq meter

OFF: 0 Watts in privacy state

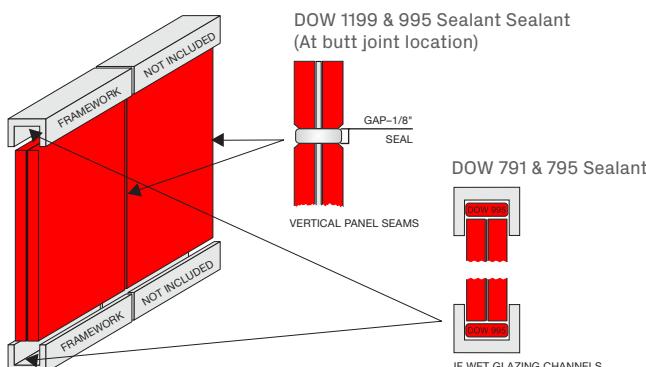
## Installation Data

### Wet Glazing Sealant Specification:

See Skyline Design installation manual for additional glazing information.

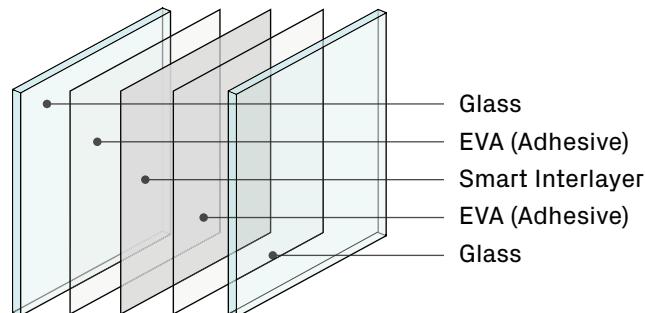
## Method of Action

Electrical current either aligns or randomizes liquid crystals to achieve desired transparency.



## Composition

This product is manufactured using ANSI Z97.1 for laminated safety glass construction



## Performance Data (ON)

Parallel Light Transmission: 78%

Total Light: 80%

Haze Range: Min 2.1%, dependent on type and thickness of substrates used

## Performance Data (OFF)

Parallel Light Transmission: 3%

Total Light: 65%;

Haze Range: Full, dependent on type and thickness of substrates used

## Switching Speed:

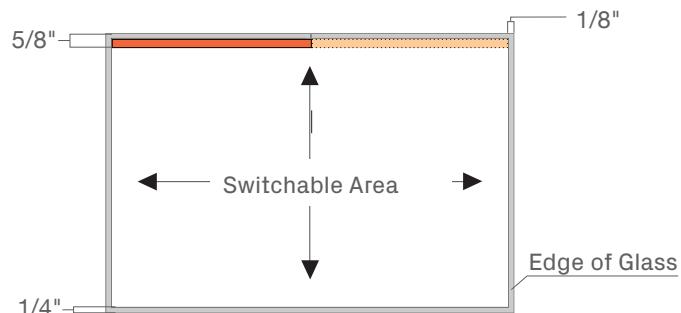
Translucent to Clear: Approx 3 ms

Clear to Translucent: Approx 150 ms

Operating Temp: -20°C to +70°C

## Power Leads

Leads generally exit top center of panel—10' of lead standard



## Haze

SDX2 is carefully checked by Skyline's quality team for clarity before and after lamination. As it is made up of several layers (glass, EVA, and PDLC smart film interlayer), it will naturally have some haze and look different from regular clear glass.

SDX2 is designed to diffuse light, which makes it an optical product. The amount of haze can increase due to general lighting and when viewed from wide angles. However, there are ways to reduce haze by adjusting the environment where SDX2 is used.

Light shining directly on the glass from above, below, or at a parallel angle can affect the appearance of the haze.

## Lighting Conditions

Strong and bright light levels inside a room will make SDX2 appear hazy when viewing from the outside.

When positioned at a direct angle you will get the highest level of transparency and lowest level of haze

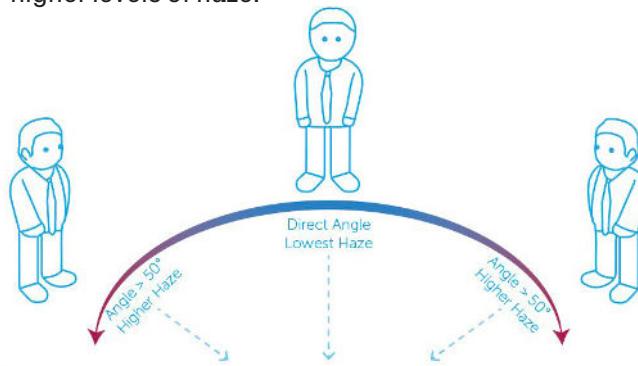
As the viewing angle becomes wider, the level of haze increases.

Lighting factors might also increase reflection, which can disturb optical properties

## Viewing Angles

Haze: Min. 2.1%

Haze (Off-axis  $\geq 45$  degrees): 9-12% Viewing the glass at angles of 50 degrees and more will have higher levels of haze.



## Passage of Light

The angle and type of light passing through SDX2 influence the level of haze. The materials between the glass layers, including the film and adhesive interlayers, can cause light to scatter or diffuse. This scattering, known as Wide and Narrow Angle Scattering, results in haze and reduced clarity as light is dispersed in different directions.

## Haze Over Time: Outdoor Condition Testing

The graph below demonstrates how haze is affected over an extended period of time, in outdoor conditions. SDX2 films have been tested to simulate consistent use in harsh, outdoor conditions. To estimate indoor conditions, multiply the outdoor years below listed by 4. Example: SDX2 16 years outdoor  $\approx$  64 years indoor

